

# (12) United States Patent

# Fujii

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# (54) ACCELERATION SENSOR AND PROCESS FOR THE PRODUCTION THEREOF

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(\*) Notice: Under 35 U.S.C. 154(b), the term of this patent shall be extended for 0 days.

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#### Related U.S. Application Data

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		438/52;		
(58)	Field of	Search		
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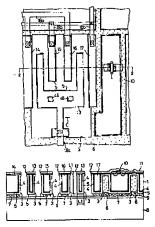
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## (57) ABSTRACT

A single crystal silicon substrate (1) is bonded through an SiO<sub>2</sub> film (9) to a single crystal silicon substrate (8), and the single crystal silicon substrate (1) is made into a thin film. A cantilever (13) is formed on the single crystal silicon substrate (1), and the thickness of the cantilever (13) in a direction parallel to the surface of the single crystal silicon substrate (1) is made smaller, than the thickness of the cantilever in the direction of the depth of the single crystal silicon substrate (1), and movable in a direction parallel to the substrate surface. In addition, the surface of the cantilever (13) and the part of the single crystal silicon substrate (1), opposing the cantilever (13), are, respectively, coated with an SiO<sub>2</sub> film (5), so that an electrode short circuit is prevented in a capacity-type sensor. In addition, a signalprocessing circuit (10) is formed on the single crystal silicon substrate (1), so that signal processing is performed as the cantilever (13) moves.

#### 13 Claims, 15 Drawing Sheets



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